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AMERICAN
BEE JOURNAL.

ESTABLISHED BY SAMUEL WAGNER.

EDITED BY

W. F. CLARKE

AND

MRS. E. S. TUPPER.

THOMAS G. NEWMAN, MANAGER.

VOLUME X.--1874.

CHICAGO, ILL., AND CEDAR RAPIDS, IOWA :
THE AMERICAN PUBLISHING COMPANY.
1874.



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AMERICAN BEE JOURNAL.

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. X.

CHICAGO, JANUARY, 1874.

No. 1.

Correspondence.

Correspondents should write only on one side of the sheet. Their best thoughts and practical ideas are always welcome; no matter how rough, we will cheerfully "fix them up."

Translated for the American Bee Journal.

Bee-Keeping in the Valley of the Weser.

The valley of the Weser, in the neighborhood of Rinteln, is admitted by every stranger to be one of the most beautiful and favored spots in Germany, and yet bee culture, especially rational bee culture, is so much neglected, that an improvement is greatly to be desired.

In Rinteln, a town of over 5000 inhabitants, there are not, leaving out my apiary, fifteen swarms! That more bees are not kept here is to be wondered at, as nearly every house has a large garden attached, and most of the owners of houses are also farmers to a greater or less extent. And the open country could hardly be better adapted to bee culture. The largest apiaries are found five or six leagues from here, in the neighborhood of Stadthagen and Rodenberg. The bee-keepers of that locality wander about with the bees in the Heath. The Weser Valley here, however, having an early yield of honey which is unsurpassed, has for years been visited every Spring by bee-keepers with from 200 to 300 stocks in straw baskets. The apiarian remains here until the blossoming of the flowers in the Heath. The Spring honey harvest here is wonderful. Then comes the blossoming of the fruit trees, of which there are a great abundance in the gardens, and along the roadway, giving an abundance of honey and pollen; then follows the harvest from the seed fields, which is usually very abundant. Nowhere are there greater quantities of

rape raised than here. Along the Weser are found many meadows, rich in soil and producing much honey. Boundless fields are covered with the most beautiful flowers. On the heavy grounds beans are cultivated; and along the roadways, etc., millet grows and blossoms until late in Fall.

I can this year report the honey yield to have been very good, because in the Summer fruit fields there was a great quantity of wild heather, so that they appeared as yellow as if covered with rape blossoms. Thus, it is no wonder the bees had no more room in which to store their honey.* I observed that the queen stopped laying for upwards of three weeks since, just as soon as the cells were built, and filled with honey. In such years those stocks are of the greatest advantage, which are the most populous. It is true we receive somewhat later pasturage from the forests, yet our main dependence is upon the previously mentioned plants. This year I learned the difference between the German and Italian bees. The latter are much earlier with their brood, and are, therefore, best suited for localities like this. For many years I have observed that the German bees only become strong and populous when the honey harvest is on the decline, while the reverse is the case with the Italians.

I have the pleasure of being the first person in this neighborhood to adopt the movable comb system, and also to introduce Italian bees.

I secured the Italian race without much trouble. I engaged a queen in the Autumn of 1871, from Herr Henrme of Nierburg, and received a beautiful specimen with a few worker bees. These I introduced in the usual way into a stock of German bees, which I had eight days previously unqueened. Before introducing

*Here was a chance to use the honey emptying machine.

the queen I carefully examined the hive, and destroyed the queen-cells that had been begun. The queen was warmly received, and in a few days the bees released her of their own accord. The stock wintered well, and was one of the best of my stocks. Towards Spring I found many young Italians. That Summer I made from it five new swarms. My greatest care was, to have these beautiful colored queens purely mated. I separated them half a league from the common bees, and attained my object. I could last Summer have raised a large number of queens, but I wished first to test the virtues of the race. I wintered six Italian stocks. As these made their appearance this Spring to my full satisfaction, towards June I made ten artificial swarms, some having most beautiful queens.

The mother swarm I divided three times, and yet it swarmed four times. Through these after swarms I received a number of queens which I substituted for common ones. I do not desire to remove all the common queens, yet it would be possible for me this Summer to have Italianized all my stocks.

It is with great sadness that I see Bee culture so much neglected in this favorable locality.

WILHELM BORNEMANN.

Rinteln, July 10, 1873.

For The American Bee Journal.

Bee Anomalies.

One pleasant afternoon last August, as I was standing near one of my nucleus hives, I observed a commotion at the entrance, and soon saw that the naughty little fellows had it in their heads to leave their home. I let them have their own way, contenting myself with observing their actions. They soon settled on a bush near by. After requesting my assistant to hive them in a small box, I went to the deserted hive and opened it, and found plenty of brood and honey, satisfying myself that they did not leave for the want of these. As the hive was well shaded, they did not desert because it was too hot.

I put them immediately back into the hive from which they came; but I had no sooner done this, than another nucleus quit its hive and settled on the same spot

that the first one did. This I also put back.

Having some curiosity as to how the "pesky chaps" in the first hive were behaving themselves, I opened it and found them engaged in killing their queen. As this queen had mis-mated with a black drone, I let them alone, and in an hour's time they had her carried out "a corpse."

From hive No. 1, I went to hive No. 2, and found them treating their queen in a similar manner. As the progeny of this queen was pure, I caged her, and kept her confined until their fiery ardor cooled down. She was then kindly received.

I can only account for the strange conduct of these bees, by supposing that, as the honey harvest at the time was failing, they became discouraged, and determined to leave; and as I put them back against their will, they became enraged at their queen, and determined to kill her, and raise another.

Have other bee-keepers met with similar cases?

During the month of October, on opening a hive containing a very fine Italian queen, and removing a frame, I found a beautiful light colored queen on the side of comb next me, in the act of laying. As soon as my eye caught sight of her, I concluded at once that she was a usurper, and had displaced my old, familiar queen (sixteen months old, with one wing clipped). But on looking on the other side of the card of comb, I found my old queen, occupied with her usual pastime of laying, and looking as though she was perfectly at home. I caged the would-be usurper, and gave her to a colony from which I had taken a queen. My queen with the clipped wing seems to be as prolific as ever and so far as I can see, shows no signs of diminished vigor. This case, while it establishes no rule, proves that it is possible for two laying queens to be in one hive at the same time peaceably performing their functions.

J. P. H. BROWN.

Augusta, Ga.

Prof. Gerstoecker, of Berlin, Prussia, says: "The Egyptian bee is nearly a third smaller than the common bee. The abdomen resembles that of the Italian but the corselet is yellow, the downy hairs of the thorax are whitish."

The Honey Extractor.

AN ADDRESS BY A. I. ROOT, OF MEDINA, OHIO,
BEFORE THE MICHIGAN BEE-KEEP-
ERS' ASSOCIATION.

Mr. President, Ladies and Gentlemen—

We have been requested to address you on the "Honey Extractor, its use and benefits," but before so doing would remark, that should we here repeat much that has been gone over before, we hope to be excused on the ground that much repetition seems to be necessary to induce bee-keepers to give the credit that is due to this implement of the apiary.

About the year 1856, we, as an experiment, moved a small colony from its stand in the month of June, and placed in its stead a hive containing only empty combs with a caged fertile queen. On releasing the queen, forty-eight hours afterward, we were so astonished at the appearance of things that we weighed the hive, bees and all, and found that it had gained in the interval, thirty pounds.

The question at once arose whether they would not go on increasing at the rate of fifteen pounds per day, for some days to come, were they furnished with facilities in the shape of empty combs as fast as they were filled, for none of our other colonies, though equally strong, had made any such increase in the same time.

Shortly afterward, E. Van Slyke, in the *Bee-keepers' Gazette*, solved the problem for us by his notice of the German Centrifugal Machine, and soon we had hastily extemporized a rude tin can with revolving frame inside, made of iron wire and hair-cloth. A brief trial of this rude machine, in a half finished state, convinced us that combs could be made empty in a twinkling and without injury, and before the season closed we had half a ton of nice honey put up in quart glass jars, neatly labelled, and these sold rapidly for a time at one dollar each.

After cold weather came on, the honey of course, candied, and our beautiful honey that had been so much admired for its transparency and purity, presented more the appearance of jars of *lard* than anything else, and in spite of the fair reputation that we had always borne, there began to be considerable "talk" that we had manufactured the honey, and our bees

didn't gather so much, for it was "actually turning back to sugar." However, the honey all went somewhere before another season, and we indulged through the Winter in "bright visions," and before "fruit blossoms" we had purchased one pound jars to hold a ton, and labels in two colors for all sources we could think of from which our bees might gather honey, so as to be all ready for the coming harvest. By the way, we have just been looking over our unused labels and find those printed for Fruit blossoms, Locust blossoms, Alsike Clover, (we had all of an eighth of an acre,) Buckwheat, and Autumn wild-flowers nearly all remain on hand. White clover and basswood being the principal well defined sources.

Well our jars to hold a ton were soon filled, and we need not tell here how we borrowed all the wash boilers in the neighborhood, and washing day *did* come, and our bottles *didn't* come; but it was all made "lovely" and we sold nearly three tons of honey in the one and two pound bottles. But cold weather came again, and again it looked like lard and wouldn't sell, and, "more too," in the candying process it pushed the corks out of the bottles, and some of the boxes had been left "wrong side up," and the labels were spoiled on those that weren't wrong side up, and as a last resort we poured or *tried to pour* the honey out those little bottles into barrels, and they had to be warmed, and if we hurried them to get through the "muss" they broke, and now we don't put our honey into glass jars until they are ordered in that shape. We use nothing smaller than quart fruit jars, and never try to hold honey with corks, but use those jars that have secure fastenings equal to all emergencies; those with glass covers and a metal clamp, called the Haines Fruit Jar, we like best.

Again, during a very rapid yield of honey, combs are sometimes filled before the honey has had time to ripen, and some that we bottled in that state came so near fermenting that it gave extracted honey rather a bad reputation, and justly so, for we were astonished at the contents of some of our own when picked out at random and brought to the table. At first the idea was quite romantic of bottling the "nectar" fresh from the flowers the same day it was gathered, but even our

favorite White Clover under such circumstances had a decidedly *green* taste, and, unless evaporated by setting the jars in an oven until the honey attained the desired consistency, would most assuredly encourage a preference for old-fashioned comb honey.

Honey when extracted from sealed combs, or at a time when the bees just begin to seal it, we think, however, is in no respect different from, or inferior to comb honey, and we think most people will, after a time decide that wax is not particularly desirable as an article of food.

Instructions for the use of the extractor we think are hardly needed now, for "Young America" very soon finds a way to get out the honey after he once gets an idea of the *modus operandi*.

Uncapping the combs, it is true, once seemed a formidable task, but just hand your honey knife (it must be very thin, very sharp, and of the finest steel), to some one of our bright, keen, go-ahead feminine friends, tell her what is to be done and after a little practice her knife will glide under the caps and roll them off in a sheet (no hot water is needed) at a rate that will convince any "lord of creation" that at least a *part* of bee culture is women's work.

Also in using the extractor, many have been led to think the operation a laborious task because their machines were heavy and cumbrous, with gearing like a fanning mill, and even yet we find it hard work to convince many that it is a great waste of strength and time to whirl a can, honey and all, at the speed necessary for the honey to fly out, when only the comb itself needs whirling.

It is for this reason that we so strongly urge that every apiarist should have but one sized frames in his apiary, and have his extractor made to fit them and *no others*; for to make a frame of wire cloth with the necessary supports and braces larger than the comb we use, to be constantly brought up to the proper speed and quickly stopped, simply because the manufacturer was obliged to make his machines large that they might fit all frames, it seems to us, is very poor economy.

The smallest frame generally in use is the Gallup frame, eleven and one-fourth inches square, and the largest is the Quin-

by, twelve by eighteen and one-half inches. Now to revolve the ponderous frame necessary to receive the latter in extracting combs of the former size would be a constant waste of strength; yet there is no objection to using the large frame and large extractor, for with all large frames work is pushed more rapidly to compensate for an increase of power being demanded. Also with the small extractor the small frames could be handled and extracted with much greater rapidity.

An extractor made expressly for the Langstroth frames may be made very light and work very easy, for if placed longest way up and down, the wire cloth may come within five inches of the shaft, and its length may just as well be two inches less than the length of the frame, for the attachment of the comb to the wood is ample support.

Now as the Langstroth frame is but ten and one-eighth inches broad, we cannot afford to make the extractor frame more than ten inches, and nine and one-half inches would be better economy for a very light running extractor; but this could not be used for the Gallup frame, unless increased to eleven and one-half inches or more. Then comes the American frame, twelve by twelve inches, or old style, twelve by sixteen inches, and perhaps we might as well use a Quinby extractor for all of the American frames, even at the expense of whirling some superfluous metals below the comb.

Strips of folded tin seem to combine more of the qualities of strength and lightness than any other material we know of for making the inside framework to an extractor, and a tin tube makes all the shaft that can be needed. We would always have both top and bottom bearings of tempered steel, and, to conclude, we know of no better winter amusement for the bee-keeper than to see how nice an extractor (*i. e.*, light, strong, and easy running) he can make, or at least can make with the assistance of his tinner, and we would advise every bee keeper to get on friendly terms with his neighboring tin-smith by all means, for they are destined, it seems to us, to be our greatest allies.

As to the "use and benefits" of the extractor, really it seems to us that our friends need no remarks on this head. We have learned to build up colonies, rear

queens, increase the number of our stocks artificially, and we feel like adding, how to winter successfully, and with certainty also, but we should feel lost to attempt any of these without the extractor, most especially the latter. Before the advent of the extractor, even with movable combs, the progress in the interior of the hive was mostly guesswork, and only viewed at rare intervals and with the feeling that it was an intrusion.

Now we watch the progress of honey storing and comb building, even to seeing every comb that is built and whether it be worker comb, strait, etc.; our queens are seen, their fertility noted, progress of brood rearing, amount of pollen on hand, what becomes of it, etc. Swarming is kept under almost entirely by its use, and the disorderly work that follows almost always where natural swarming is allowed, is avoided.

Last and not least, without the use of the extractor we should be almost powerless to avert the consequences of Bee Malady in wintering. By removing natural stores entirely, and supplying them with food of *known* and *invariable* quality, we are no farther depending on the chance that may perhaps have provided wholesome food for Winter.

For The American Bee Journal.

How to Feed and Winter Bees.

Messrs. Editors: In response to many inquiries in regard to keeping and wintering bees, please give the following an insertion in the AMERICAN BEE JOURNAL if found worthy.

To each quart of sugar add one pint of hot water, heat to the boiling point and skim; or to every three pounds of sugar add two pounds of hot water, stir, heat, and skim as before directed. As soon as cool enough it is ready for the bees.

For feeding in the Spring, Summer or early in the Fall, a common grade of good sugar does very well; but for late Fall or Winter feeding, use the most refined grades. Feeding for Winter should be done during warm weather, soon after the first killing frosts and as fast as the bees can store away the syrup, and until the brood combs have been well filled. Molasses, sorghum, or the poorest grade of

sugar should never be used. Good sugar is the cheapest, and is also healthy for the bees. Honey from other hives often proves fatal to them while confined to their hives. When bees are fed late in the Fall, or during continued cold weather, place their hive at an open window in a room kept constantly warm, where the bees can crawl back into the hive after flying. Keep the room warm until they have stored, *evaporated*, and *sealed* over enough syrup to last them until Spring. With the Universal Hive, as patented Aug. 26, 1873, I accomplish the same thing without letting the bees out, by placing a screen in front of the hive, securing a space for the bees to fly in. A frame of empty comb filled with syrup, poured into the cells from a suitable height, may also be placed between the screen and the end of the hive, which, being exposed to the light and the open air, will cause the bees to remove the syrup to the interior. By this means the bees may be kept in a parlour, or any other suitable, warm room while being fed, and at any season of the year. When feeding bees in the Spring, or any other time, care should be taken not to give them much more syrup than they will consume in preparing food for the young.

In judicious feeding lies one of the great secrets of success. Plenty of flour also should be given to the bees as early and late in the Spring as they will use it. It may be protected from robber bees by means of the screen arranged as already pointed out. In the sunshine is the most favorable place for the flour, which may also be made of different kinds of grain.

A *cool, still, dry*, and perfectly *dark* place, with *thorough ventilation* to the hive, is the most favorable place and condition in which to winter bees. They should be kept as quiet and free from disturbance as possible. To prevent the accumulation and retention of dampness or water, the hive must be well ventilated, and should also be so arranged and protected that the bees can economize their animal heat to the best advantage. Proper conditions will ever secure success in wintering bees. The required conditions may be enumerated as follows: 1st. A productive queen, with bees enough to rear brood. 2d. Suitable combs stored with wholesome food. 3d. A pure atmosphere of a suitable tempera-

ture, about 40° or 50° above zero being the best. 4th. No disturbances of any kind, with a proper exclusion of light—total darkness and stillness being the best for keeping the bees quietly confined to their hives. A good method of out-door wintering is to set up and tie a shock of corn stalks around the hive, enough to break the winds and keep the hive dry, at the same time packing plenty of hay or straw around and over the frames, after properly ventilating and protecting the bees from the mice, and also securing the bees a small and suitable passage to and from the external atmosphere. The straw and fodder will absorb the moisture collecting around the bees, conveying it to the external atmosphere and also more fully protect them by confining their animal heat.

I hope the foregoing may enable some of my fellow bee-keepers to be more successful in feeding and wintering their bees than heretofore. A. T. WRIGHT.

Chicago, Ill., Dec. 1, 1873.

For The American Bee Journal.

Adam Grimm's Bee-feeder and Smoker.

In the December JOURNAL, Mrs. Lucinda W. Harrison wants to know why I did not describe Mr. Grimm's bee-feeder and smoker. I thought I would leave that for Mr. G. to do, but as he has not done so, I will do it now. Ladies are said to have a lively imagination, so, Mrs. H., please try and imagine this description.

BEE-FEEDER,—a tin can four and one fourth inches in diameter, and four inches high; a hole in the center of the end, one and one half inches in diameter, covered with perforated tin, soldered on; a small hole near the edge of the same end, on which is soldered a screw cap, the same as on kerosene cans, with the rim of the cap cut down so as not to project over five eighths of an inch from the can. A rim is soldered on to the end of the can, three fourths of an inch wide, so that when the can is turned with the hole downwards, there will be room for the bees to come up under it, and eat honey, syrup, or water through the perforated tin. Fill the can with a tunnel through the screw cap, turn the cap on tight, and with a quick motion turn the can bottom

up over the bees, when the atmospheric pressure will keep the liquid from running out, except at first, when a teaspoon-full or so will drop, which the bees will take care of. The hive should be as near level as possible. Sometimes when the bees do not care for the food, or the weather is too cool, drops of moisture will gather on the can, and form a draft for the syrup, which will act the same as a half dozen bees, and the feeder will leak a little. The can must be perfectly air-tight. I give mine a couple of coats of paint, outside, which keeps them from rusting.

SMOKER,—a tin tube, one and one-fourth by six inches, ends covered with perforated tin, pressed inwards; two mouth pieces fitting over the ends of the tube, removable, and tapering to a point, with a knob on each to hold between the teeth like the stem of a pipe. To use it, fill one of the mouth pieces with tobacco (I suppose fine rotten wood would do), light it, and crowd it on to the table, then blow through the other mouth-piece, and there is your smoke. For those who use the weed, it is very handy, for it can be held between the teeth, through a hole in the vail, and the smoke directed to different places, while both hands are at liberty to handle frames, etc. But for those who do not use tobacco, and certainly ladies, I think a piece of rotten wood is far preferable. A little cup with handle and perforated tin bottom, is a nice thing to lay the wood in, when the smoke can be blown down through it, and no danger from fire when it is set down. If Mrs. H. does not understand the description of the feeder, I will send her a sample by express for twenty-five cents, and her tinman can make them from it. W. M. KELLOGG.

Oneida, Ill., Dec. 19, 1873.

Honey may be kept in perfect purity for years by boiling the strained or extracted article, then skim it carefully, and seal it up air tight, as fruit is canned, then keep it in a cool, dark place.

As a supply for the Winter, a strong stock should, on the first of November, contain at least one pound of honey for every thousand bees; and a weak stock should then have a pound and a half for every thousand bees.—*Hoffman*.

THE WINGS OF THE BEE.

Physiologically Considered as Organs of Flight and of Special Sensation.

The following paper was read before the Bee-keepers' Convention, by Gen. Adair:

To the novice the wings of a bee appear as a dry membrane or tissue of skin, stretched over a frame-work of as equally dry and lifeless ribs of hard, elastic, horny matter. He does not suspect that they have other than to enable the bees to fly, or that their loss or destruction does other injury than to disable them from flight. It is a common practice even among well informed apiarists to cut off the wings of the queen to prevent her going off with a swarm. A better acquaintance with the structure and uses of the wings would show that any such mutilation must be injurious.

Bees do not breathe through the mouth, neither do they have lungs, like the higher animals. Respiration is carried on through an intricate ramification of minute tubes called *trachea*, having their outlets or mouths as pores (called *spiracles* or *stigmata*) in the sides of their bodies, under and behind their wings. Through these breathing pores the air is led by those delicate tubes to every part of the body, even to the tips of their wings.

Bees have no heart as higher animals have. A tube, or as it is called, a "dorsal vessel," lying just beneath the middle line of the back, and extending from the head to the tip of the abdomen, performs that office. The blood is received into this tube, and, as bees have no veins proper, it escapes from all parts of the tube and traverses the body in currents, bathing all the organs, even to the extremities of the wings.

The nervous system of bees consists of a cord, or rather a double cord, commencing in a knot in the head, which is their so-called brain; from thence it extends throughout the whole length of the body under all the internal organs, resting on the "floor" of the body-walls. On this cord, at intervals, there are swellings (*ganglia*) from which fine filaments are sent out, which are special nerves for the various organs to which they lead; one branch passing to the wings is distributed through all parts of them.

The horny frame upon which the fine membrane of the wings is stretched, is all of it composed of hollow tubes of a hard substance called *chitine* (the same substance that constitutes the hard part of the organs and the crust of all insects). Those tubes are double, being one tube inside of another. The inner ones are extensions of the *trachea* through which the air circulates in breathing; between which and the other is a space through which the blood circulates, and is brought in contact with the air through the thin walls of the air tubes, just as the air and blood are brought together in the human lungs, and with the same effect.

Thus we see that the wings, besides being organs of flight, are in reality lungs. The blood in the wings, however, is not confined to those tubes, but circulates like the sap in the leaves of plants to all parts of them, and, it is likely, is thus also aerated.

The nervous filaments we have also seen pass to the wings. They follow these tubes, and all the fine venations, and terminate in every part of the wings in what are called nerve filaments (*papillæ*), which in all animals are vehicles through which all sensations are perceived; so that we may infer that the wings of bees, besides giving the power of flying and acting as lungs, are also organs of sensation of some kind. All parts of the human body have these nerve filaments on the surface, through which the sense of touch is exercised. The eye has them so modified that they give us sight. On the tongue they give us taste; in the nose, smell, and in the ear, hearing—in each case modified to give different perceptions. For what purpose the wings of bees are so supplied has not been determined. We would of course conclude that the wings were not organs of sight or taste.

In all the investigations of naturalists none of them have been able to locate the organ of smell, although the belief is that it is the most powerful of all their senses and the most necessary to them in searching for honey. By means of it, it is supposed that they recognize each other and distinguish between their fellows and strangers to the colony. Some have suggested the antennæ as the organs of smell, but as they appear to be poorly adapted to perform such an office, it is just about

as likely that they smell with them as that they see with them, which some have supposed they did. Invisible and subtle particles emanating from odorous bodies (often so fine that they elude all attempts to detect them by any other means), coming in contact with the olfactory nerve-fibers, produce the sense of smell. These atoms are mixed with and float in the air, and in order to collect them a considerable volume of air must be made to pass over the surface—a thing which the wings certainly accomplish in an eminent degree. It is highly probable that the sense of smell is lodged in the wings.

The sense of hearing in bees has never been located by naturalists, although that office has by some been attributed to the antennæ also. Is it not more probable that the wings exercise it? The impression of sound is produced on the organs of hearing in all animals by vibrations of elastic bodies (commonly the air). A delicate, thin membrane stretched across what is called the drum of the ear, receives the impression, and communicates it by means of an intricate arrangement of parts to the auditory nerve-fibers, or *papillæ*. What appendage of the bee would be more suited to receive such impressions than the thin, stiff membranes composing the wings?

But it is not intended in this article to discuss these questions. I only throw them out as suggestions. Whether the wings are the organs of smell or hearing, or not, does not materially affect the point I wished to make, *i. e.*, that the clipping of a queen's wings is an injury to her. We have seen that they perform the office of lungs, and that a queen with clipped wings is in the same condition that a man would be with part of his lungs gone. Those who have seen human beings in that condition need not be told how useless they are for the active duties of life. An insect like the bee, with a differently distributed vitality, may not be injured to the same extent, but that it is injurious no one certainly can doubt; and if by the mutilation, the sense of smell is destroyed, and the queen rendered deaf, her usefulness would certainly be impaired.

In the act of flying the bee makes another use of the tracheæ. At the moment of elevating its wings it may be seen to increase in size suddenly, which is the ef-

fect of drawing in through the spiracles a quantity of air, which is distributed over the whole body, thus rendering it of less specific gravity; the air being further expanded by the warmth of the body acts like the heated air of a balloon, and enables the insect to rise easily and sustain a long flight, even when loaded with honey and pollen. In the act of alighting it expels the air with which it has been inflated, and falls suddenly to the alighting-board of the hive. If the landing place is narrow and elevated, and it misses reaching it, the bee will be sure to fall helplessly to the ground, and can only rise again by inflating its body. Bees with larger bodies than our honey-bee, the large bumble-bees have at the base of the abdomen, in addition to the ordinary air-vessels, two large sacs, called *air vesicles*, which are supposed to be used alone for inflation in flying, and some other insects have in the heavier parts of their bodies similar sacs.

For the American Bee Journal.

Italian Bees.—Their Worthlessness.

We give below, an extract from the discussion that took place at the meeting of the Bee-keepers' Association, of Ober Hess, in July last, by which it will be seen that there are some in Germany as well as this country, who have no faith in the Italian race of Bees.

The question before the Association for discussion was: What practical results have thus far been obtained by the introduction of the Heath bee as compared with that of the other imported races—Carnolian and Italian?

Herr Dorr, of Mettenheim, said: Gents, Since 1857 I have interested myself in imported races of bees, especially the Italian. I was their warm defender, and protected and guarded them as pet children, and thus became possessed of fine, pure colonies, and also some crosses in the first and second degree. But when I seek to find out what has been the practical result from 1857 to the present, what return I have had for my trouble, outlay of money, etc., in the introduction of different races of bees, I am forced to acknowledge that all the foreign races combined are not worth an iota. I will not include the list by foul-brood which was introduced into my apiary through these importations.

I, for my part lost 500 guilders through the foul brood introduced by the Italians, and on these grounds I warn all my Association friends. I must hence decidedly oppose any further importations.

Inestimable damage has been done to our neighborhood by the introduction of the Italian race. I could mention whole apiaries, containing upwards of forty stocks of movable comb hives, that were Italianized and have gone to total ruin. In 1868 I owned 100 movable comb hives; three fourths of which had pure Italian queens, and the other fourth were half-breeds. From that time on I began to Germanize my stocks, and from 100 have come down to 40 Italian stocks; and so perhaps it may be with other members of the Association. I could show you with statistics how great the loss has been to our Association alone. You would be amazed, and from this basis advise against every introduction of foreign races.

The Heath bee does not suit us, because it swarms too much, when it should be gathering honey. I have in my immediate neighborhood, a beginner, a man of good judgment, who, persuaded by the praises of Gravenhorst, procured 22 stocks of heather-bees. These cost, when they reached Alshiem, somewhat over 500 guilders. He built a house. To-day they are standing there without a half ounce of honey; they swarmed, however, in abundance. Thus are failures produced, and upon these grounds I hold it to be my duty to so work, that our Associations will take this matter decisively in hand.

Since 1868 I would not endure any Italian blood in my apiary. I have half-breeds who do very well. Last year I allowed myself to be again persuaded and engaged 4 very choice queens, and this spring three of them were proved to have foul brood. The entire stands were destroyed. This again cost me a fine sum of money. It would be far otherwise, if we would more closely watch our native bees, and from year to year note what stock distinguishes itself beyond the others, and make these the standards from which to rear our queens, and I believe we would improve our race of bees without costing us so much money.

President. It might, perhaps, be interesting should Mr. Dorr explain how the foul brood got into his hives, whether it

was imported with the Italian bees, or whether from a peculiar character of the Italian bee, which would in our climate produce foul brood.

Herr Dorr. From 1857 to 1863, as Secretary of this Association, I received from Dzierzon Italian Queens. The Association of the Palaterate received from me Queens. Yet not in one instance did foul brood appear. In 1863 after the meeting at Hanover occurred the discussion as to the difference between the queens raised by Dzierzon, and those imported.

In the spring of 1863 I received my first queens from Mora, and the following Fall foul brood made its appearance. At the time I ascribed the appearance of foul brood to a peculiar circumstance. A friend of mine had some Italian queens in a triple hive. He desired me to put it in order. I agreed to do it, and had the hives brought to my apiary. I then purchased some honey from the honey dealers, for feeding, and I believed that the foul brood was caused by this honey. But it so happened that others, who in 1863 and 1864 received queens were as unfortunate as myself. Last year I tried some from Uhle, but with the same result—foul brood.

Prof. Baest. At what time did foul brood appear most abundant?

Mr. Dorr. I have not yet concluded. From the hundred, yes, hundreds of queens, I have certain information of, I am convinced that the queens reared in May, June, and July are not foul-broody; while on the other hand, those raised in the Autumn months, and those raised in Canton Tessin and sent out by the farmers, are nine-tenths of them foul-broody. Of the former, hardly one fourth show themselves foul-broody. Hence let the importing of strange races of bees alone. If we had spent for the aid of natural bee-keeping in the Grand Duchy of Hesse, the amount of money expended for importing foreign bees, bee-keeping here would be in a very different stage.

President. Judging from the remarks of Mr. Dorr, it appears that foul brood is imported with the Italians, and not a peculiarity of that race.

Mr. Dorr. I have one more remark to make. I have, for example, often in Fall, in order to quickly accomplish my work, smoked the bees with a puff-ball, and in the evening I opened the hive and placed

all the combs over the stultified bees. This Fall I watched the operation carefully. Every swarm so treated became foul-broody. I do not know of a single exception, which I could say did not become foul-broody.

Did I cage the queen, foul brood did not make its appearance so readily. On a former occasion in order to introduce foreign queens, I stupified them with the smoke of a puff-ball, the most of them became foul broody. To another I gave a queen, and it also became foul-broody. I yesterday destroyed it, bees and hive. I can knowingly tell you of two incidents, where a queen was taken from a hive infected with foul-brood and put in a queen-cage, so that not a particle of foul-brood was present, and yet after a time it made its appearance. Dzierzon himself is unable to explain this.

Mr. Secretary Gros von Arnsburg. It appears to me that Mr. Dorr admits that Italian queens reared in the months of May, June, and July are free from foul brood, while those reared in September produce foul brood. Why not rear our queens in those months?

President. That is a very natural inference, but we must remember that queens reared in the Fall months are much cheaper, so that the largest number are sold at that period, while those sold in Spring cost double, yes, three times as much.

Mr. Gross. But sooner than obtain foul brood, I would willingly pay a larger sum of money.

President. What you say is very rational, but one comes in conflict with his purse. I think this question has been sufficiently discussed. Should I in a few words give you my practical experience, it would be, that crosses obtained by the union of a pure Italian queen with a common drone, or a queen of the Heath bees impregnated by an Italian drone, are the best bees I have in my apiary, and I invite all who wish to be convinced of this to visit my apiary. . . . We have been too long breeding in and in, and this phlegmatic German blood needs quickening. This is just what is done in improving our breeds of cattle, and why should we not adopt the same measures with our bees? I cannot entirely agree with Mr. Dorr.

Pastor Weber. Mr. Dorr told us that

he began Italianizing in 1857. He has been breeding queens, then, for 10 years, and only lately has he become satisfied with his bees—and now they are all crosses. If one procures queens in 100 or 1000 different ways, there will be no more of the pure German race. In Rheinisch Hesse this freshening of the blood has been carried on to a great extent. There is, there, no pure race, but everywhere are traces of foreign blood.

For the American Bee Journal.

The North American Bee Keepers' Association.

The Third Annual Session of this Association was held in the city of Louisville during the first week in December.

In the absence of the President, Vice President Hamlin, of Tennessee, took the chair and called the meeting to order, Gen. Adair acting as Secretary.

Owing to the inclement weather, and the sickness of some of the members, the attendance was not so large as could be wished, but the sessions were full of interest. The first morning was devoted to an informal meeting, and the afternoon to a free social conference. Letters were read from absent members. Several practical questions were discussed: viz., The size of brood laid by a prolific queen; The cause of foul brood; Why queens sometimes desert the hive, etc.

The propriety of clipping the wings of queens was talked over at length, disclosing quite a difference of opinion on this subject. The proper kind of food for bees was also discussed, after which the meeting adjourned until 7 p. m.

In the evening the respective value of the various honey plants was considered, and the Alsike clover was highly recommended.

The subject of introducing queens was also discussed, and the propriety of extracting honey freely commented upon. The members were largely in favor of extracted honey, as it leaves the comb intact, and ready to be refilled at once with honey, thereby saving to the bees more than half their labor. It is also claimed that it is better for the table, having been prepared for assimilation by the stock. It is asserted that the only thing which renders

honey injurious to invalids, is the indigestible *comb* that is taken with it.

MORNING SESSION.

The Convention met at half-past 9 o'clock this morning Mr. Hamlin in the chair.

General Adair stated that it was proposed to hold a Centennial Exposition in Philadelphia, and moved that a committee of three be appointed to correspond with the managers, and see what arrangements could be made for having the bee interests represented. The resolution was adopted, and subsequently the chair appointed a committee, and authorized them to appoint sub-committees in such states as they should deem proper.

The Society then proceeded to the

ELECTION OF OFFICERS.

Seth Hoagland, of Pennsylvania, and Dr. F. B. Hamlin, of Tennessee, were placed in nomination for President, and a ballot was taken, resulting in the election of Mr. Hoagland by one majority.

For Recording Secretary, Abner Pope, and for Corresponding Secretary, General Adair, were elected without opposition, as was also J. S. Hill, of Mt. Healthy, O., as Treasurer.

The following Vice-Presidents were then elected:

New York—J. E. Hetherington, Cherry Valley.

Pennsylvania—A. J. Hooker.

Kansas—L. J. Dallas, Baldwin City.

Michigan—A. J. Cook, Lansing.

Minnesota—J. W. Hosmer, Janesville.

Utah—W. D. Roberts, Provo City.

New Jersey—E. J. Peck, Linded.

Wisconsin—A. H. Hart, Appleton.

District of Columbia—Hugh Cameron, Washington.

Ontario—J. C. Thorn, Garafraxa.

Georgia—R. Peters, Atlanta.

Texas—J. W. Dunn, Corpus Christi.

Arkansas—G. B. Peters, Council Bend.

Maine—Mrs. A. C. Hatch, Houston.

Connecticut—W. H. Kirk, West Chester.

Louisiana—T. J. Bert, Mansfield.

Alabama—Miss Fanny L. Morris, Shelby Springs.

Massachusetts—E. N. Dyer, Amherst.

West Virginia—A. Chapman, New Cumberland.

Nebraska—W. Young, Plattsmouth.

Tennessee—T. B. Hamlin, Edgefield Junction.

Florida—Mrs. C. Atkinson, Leesburg.

Ohio—Aaron Benedict, Bennington.

Kentucky—Major T. J. Key, Anchorage.

Indiana—A. T. Wright, Kokoma.

Illinois—J. L. Lucas, Peoria.

Iowa—Mrs. E. S. Tupper, Des Moines.

Colorado—T. J. Dorr, Colorado Springs.

The subject of wintering bees was then discussed; The moth and its troubles were also talked over, but it was claimed that with good hives and Italian bees, there was no danger to be apprehended from this quarter. Adjourned until 2 P. M.

AFTERNOON SESSION.

An interesting letter was read from the former Secretary, Mr. King, after which remedies for stings were considered. Colp water and wet cloths changed as often as necessary, or the compound tincture of Lobelia, were pronounced very effectual remedies. Mr Winder, however recommended sulphate of zinc dissolved in water, and Mr. Murray, supercarbonate of soda, used in the same way as an outward application.

The Corresponding Secretary then read a letter from Dr. Phillips, which was placed on file. On a motion the Doctor was elected as an honorary member of the Society.

The following resolutions were adopted:

RESOLVED, That the thanks of this society be tendered the city of Louisville for kindness and hospitality shown to the Association at this time.

RESOLVED, That the Treasurer pay to D. L. Adair, Corresponding Secretary, \$6, amount expended by him for envelopes and postage in distributing the proceedings of last year's transactions, out of the first funds in the treasury not otherwise appropriated.

RESOLVED, That the thanks of this society be tendered to the Louisville COURIER-JOURNAL, COMMERCIAL, and LEDGER, for their correct report of our proceedings.

RESOLVED, That the thanks of this society be tendered to the trustees of the Public Library Hall, for their fine hall and their kind attention to us, and the Treasurer pay to the same, \$32 for the two days' use of their hall, if the Treasurer cannot get it for reduced rates.

WHEREAS, We have not funds in Treasury to meet current expenses:

RESOLVED, That each member present pay one dollar additional, which shall be credited to them as one year's payment in advance as members of this society.

RESOLVED, That our Corresponding Secretary be allowed \$10 for making out the transactions of this meeting, out of any fund not appropriated otherwise; \$5.00 also appropriated for Dr. Hamlin, money spent for postage, &c., in arranging for this meeting.

RESOLVED, That as Mrs. E. S. Tupper is the only publisher who is here, the society request her to prepare a synopsis of the reports of this meeting and publish them in the December number of the NATIONAL BEE JOURNAL, and send a copy to each member who has paid the annual fee, and also to other Bee publications and agricultural journals, and that the Secretary make an official report in pamphlet form as soon as he has funds to do it and that the Secretary be paid a reasonable sum for performing the above services.

The question was asked, "Is artificial swarming as good or better than natural

swarming?" Adair moved that the Society answer the question in the affirmative, and gave substantial reasons therefor.

An able paper was then read on the wings of the bee, which will be found entire in the present number of the JOURNAL.

The meeting then adjourned to meet at Pittsburg, Pa., the second Wednesday in November, 1874.

For the American Bee Journal

Doolittle's Article.

DEAR JOURNAL: In the July number, page 7, we gave you under the above heading our experience with bees up to April 28th. We propose now to let the readers of the JOURNAL know what we have done since; and by the way, Mr. Editor, if more of your contributors would give their practical experience with bees instead of disputing so much with each other, and about hives, we think it would be of more benefit to beginners as well as more edifying to experienced bee-keepers. The cold weather which began April 17th, continued until May 1st, and upon examining we found that our bees had decreased one-half in number to each hive. We united the weakest swarms so that we had but twenty-nine to begin the season with, one of which lost its queen shortly after. On May 1st, we did not have a hive that contained a quart of bees, and not a hive that had ten square inches of brood. The majority of them occupied from two to four ranges of comb and had no brood at all. The first pollen gathered was on April 30th, which was very small pillets indeed, and that from skunk's cabbage. Bees began to rear brood again May 2nd, and raised sparingly until May 14th, when it became cold again and remained so until the 20th, at which time the larvæ was all destroyed again. May 21st, the hard maple threw out its thousands of blossoms and the bees, what were left of them, began in earnest to prepare for the summer; before that time we had spread the brood twice a week by putting empty frames or frames of honey in the center, and on the 30th, we never had so much brood according to the number of bees in our hives, five hundred bees covering five thousand of brood easily, and from

the 12th to the 18th of June we had multiplied their number by ten and were once more in a very prosperous condition. June 15, white and red clover began to bloom, and that with locust blossoms furnished our bees with an abundant supply of honey. June, 19, our first swarm came, Basswood commenced blossoming July 16 and lasted until August 2nd, which was the end of the honey season with us. We have at the present time fifty-four colonies in good condition for wintering, and four nuclei, so it will be seen that we have doubled our number counting the nuclei. We have sold surplus honey to the amount of 2350 pounds, 635 pounds of which was extracted and which we sold for fourteen cents per pound, the remainder was in two pound boxes which brought us twenty-seven cents per pound. On the whole we are satisfied with our season's work. We propose wintering the same as last year with the exception that we shall leave the straw out of our safes until spring for the reason that our bees were kept too warm during the winter. Keep hives banked with snow out of sight, and have all lower ventilation nearly or entirely closed with one of Novice's quilts over the frames, well tucked down at the sides, and we will bid adieu to cellar wintering, as we believe bees can be wintered in no better way. No lugging or lifting nor any mixing in the spring, but just a little pleasant exercise of sweeping the snow as it falls around the hives, and if it should come warm enough for them to fly, shovel it away in front and what a nice fly they will have. If it does not come quite warm enough they will keep quiet, as the snow keeps them at an even temperature, so there is no loss of bees from getting chilled in the snow every time the mercury rises to forty in the shade.

G. M. DOOLITTLE.

Boradino, N. Y., Dec. 6, 1873. *

Italian bees are said to guard their hives against the moth-miller much better than the common black bees, and for this reason their combs are seldom injured by the moth.

The Alsike clover is equal if not superior to buckwheat as a honey plant, while the honey produced from it is fully equal to that made from white clover.

Do Bees Make Honey?

Do the bees simply gather the juice or secretion of the flowers and deposit it in the hive unchanged, does it undergo a change in their stomach, or is honey a secretion of the bees resembling that of milk in mammals?

This question was asked me lately by a reader of the *Dollar Monthly*. With your permission I will describe my views on this question, subject to the criticism of older heads.

When the bee visits the flowers it sucks the nectar with its proboscis and swallows it. The honey passes into what entomologists call the proventriculus, or first stomach, commonly called "honey sac." If a part of this honey is needed for the nourishment of the insect, it passes into the ventriculus, or true stomach, in which it is digested. When the honey-sac is full the bee returns to the hive, unloads himself by throwing the honey into the cells and again starts for the field. It is, therefore, quite plain that honey is not a secretion. Now, is honey changed in any way by passing in and out of the honey-sac of the bee? That is the question.

It has been found by chemical analysis that the nectar of the flowers is cane sugar and that the honey harvested by the bees from those flowers is grape sugar. This discovery would be sufficient to prove that the honey gathered by the bees undergoes a certain change in the honey-sac. On the other hand, W. W. Stoddard said, in a back number of *U. B. J.*, that the honey when in the honey-sac comes in contact with an acid, that proved to be identical with formic acid. He says: "This it is which doubtless causes the peculiar tingling sensation at the back of the throat when much honey has been swallowed."

Later we find in the *Apiculture* of Milan a definite account of the existence of secreting glands communicating with honey sac, and containing a saliva of a strong, peculiar odor that passes by means of contraction into the honey-sac.

These three glands were discovered by Prof. Von Siebold, the well known German entomologist. He claims the honor of having described them the first, as they had always been thought by others to be respiratory organs.

If the above discoveries are real and well understood, we shall have to conclude that honey does undergo a certain change in the stomach of the bee, and, therefore, cannot be made artificially. It does not exist in a natural state outside of the hive.

The change effected in the nectar of flowers by the stomach of the bee is not very great, however. The bee gives it a peculiar taste, but it cannot add anything to its quality or diminish it in any way.

Before I close, permit me to thank Mr. M. Quinby for his article on wintering, in the December number. I also wish to tell friend Kretchner that we agree perfectly together. Bees will not work as well in side boxes as in top boxes, although they will work in side boxes if they have no top boxes. But give them their choice and see what they will do.

D. P. DADANT.

Hamilton, Ill., Dec. 15, 1873.

Shaking Bees.

James Heddon at the Michigan Bee Keepers' Meeting, said, "I find that shaking deep combs to get off the bees, irritates them. Is there a remedy?"

There are several, a couple of which I will give. First, Use more care in subduing bees in long, deep, or large hives. It is generally best to manage hives of bees, extracting honey, making swarms, &c. during a yield of honey, and before it is sealed with wax, that all the bees may fill their sacs with honey; which they will do, if there is enough uncapped, and they are disturbed properly. If the honey is not in a condition, or of sufficient quantity, food may be given, to subdue the most vicious stock. The best brush is one or more grape or plantain leaves rolled loosely, sometimes the end trimmed. Weeds, grass, broom, feathers, or brushes may be used; and if the articles are scarce, or only one at hand, dip occasionally in water to wash off the odor which enrages badly managed bees.

Second, Use the old fashioned, native, or black bees with your deep frames, that drop off the comb like shot off a shingle, at the least handling. The stock is getting scarce. It can probably be obtained of our former President, as they are his pets.

St. Charles, Ill.

J. M. MARVIN.

American Bee Journal.

CHICAGO, ILL., JANUARY, 1874.

Business Notice.

The public are hereby informed that the proprietorship and management of the AMERICAN BEE JOURNAL have been transferred to the American Publishing Company, of Chicago, the undersigned retaining henceforward only an editorial connection therewith. By this arrangement additional security is given for the permanence, effective conduct and progressive improvement of this journal, inasmuch as the company into whose hands it has passed possess unusual facilities for carrying it on. They are already publishing *The Illustrated Journal*, with which has recently been incorporated *The Chicago Graphic and Illustrated American*, the announcement of which will be found in the advertising department of this number. They are also issuing other works of art. Having a corps of engravers connected with their establishment, they will be able from time to time to illustrate the pages of the JOURNAL, a desideratum long felt by its proprietors and friends. The new publishers are determined to spare neither cost nor pains in making this periodical worthy of the patronage of the bee-keepers of North America. The experience of a year in the business and editorial conduct of the AMERICAN BEE JOURNAL has convinced the undersigned that the apiculturists of this country need and are prepared to sustain a well-managed organ and exponent of their important industry. It has also convinced him that in order to the complete success of the JOURNAL, it is absolutely necessary that more capital, business ability and energy should be connected with it. These are now secured, and the new arrangement is announced in the fullest confidence that the results will be most satisfactory to all concerned.

W. F. CLARKE.

THE OUTLOOK FOR BEE-KEEPING.

Bee-keeping has come to take a high rank among the productive industries of the world. For want of statistics, which have never yet been faithfully collected, and which it is very difficult to get with any accuracy, only general terms can be employed in speaking of its condition and progress. A national census throws but little light on this subject, for census commissioners do not usually enquire about live-stock so insignificant as bees, and what information they get is drawn out of the people by questions. They have a printed catechism, which does not embrace the inquiries, "Any hives of bees?" "How many?" and hence the most profitable kind of live-stock in proportion to cost and value, finds no place in the record. Very much the same is true of the honey product of this and other countries. It is very imperfectly represented by figures, and is only found in commercial reports that are devoted to market prices. We are consequently quite in the dark as to the important items of consumption and demand.

But amid all this vagueness of knowledge about apiculture and honey, there are some things that stand out distinctly enough. One is the universality and abundance of honey. Everywhere in innermost hearts of myriad flowers, the Creator has garnered up stores of liquid sweet, which wait for collection and appropriation. Another thing we are perfectly sure of, viz., that this teeming and superabundant sweetness can only be made available through the good offices of the bee.

Whether the floral sweet is really honey as it lies treasured in the flower, or whether it undergoes a chemical change in the body of the bee, whereby common saccharine matter is transformed into honey, we need not now stop to enquire; but it is absolutely certain that if man is to have honey, the bee must collect and store it for him. Every schoolboy knows how to get at the drop of sweetness that lies hid in a head of red

clover, but there is no way of doing it on a large scale except by bringing the "little busy bee" into our service. We know, moreover, that the proportion of honey actually gathered and made available for human use, is very small compared with what might be got, if there were gatherers enough to do it. Further, it is quite certain, that there is no danger of the market being glutted with honey. It has never been abundant enough to cause a decline in the price, except as there has been doubt as to genuineness of quality. The best box honey never goes begging for purchasers, and the same would be true of extracted honey, but for a prejudice growing out of doubt as to its purity. Finally, we know that bee-keeping, though subject to fluctuation is no more so than most other sublunary things. Even the wheat crop sometimes fails, or when it does not fail, the demand slackens, and the price is low. In every line of business there is more or less of uncertainty, risk, and liability to sustain loss. This is no more true of bee-keeping than of other pursuits, and, therefore, it may fairly take rank among the safe and regular occupations of mankind.

So much being settled in regard to the present condition of bee-keeping, let us glance at its future. It is now reduced to a science, which, though in its infancy, has its main principles ascertained and fixed. It is also an art, whose essential manipulations have been reduced to a system. Only those will succeed in it who master the principles of the science, and learn the *modus operandi* of the art. It is passing out of the hands of unscientific and unskilled people, who are convinced that it is an unprofitable business, and better hands are taking hold of it. Our best bee-keepers make apiculture pay, and some of them are quickly amassing snug little fortunes out of the industry of the bee. As a higher class of bee-keepers get possession of the field, and apiculture acquires its true status among the indus-

tries of the world, many will be attracted to the pursuit, who, instead of rushing into it with ignorance and ardor as their only qualifications will first lay the foundation of success by thoroughly learning their business. We look for the springing up of a new generation of advanced bee-keepers—bee-keepers who will be free from prejudice against book-learning about rural matters, and who will believe in movable-comb hives, Italian bees, and honey extractors. The disasters of the last two years, which have fallen most heavily upon the ignorant class of bee-keepers, have had the effect of discouraging these, and leaving only those in the field of apiculture, who have science enough to account for failure, and faith enough to try again, and keep trying until they achieve success.

We believe, too, that the age of empiricism in bee-keeping is passing away. Impostures feed and live on ignorance. Worthless patents and clap-trap appendages, are thrown away so soon as the novice of bee-keeping is passed. What apiarian of any experience has not plenty of old lumber in the shape of abandoned hives and rejected "fixings?" We know now that with the movable frame, air-space, and the requisite room, bees will store honey in any sort of receptacle, and that the bee-keeper may suit his own taste and convenience in the matter of hives. Moth-traps, non-swarmers, and the endless little variations about frames and hives which have been made excuses for getting patents, are fast coming to be estimated at their real worthlessness.

An eager demand for trustworthy information and teaching on this subject, will manifest itself on every hand, and we shall soon have a race of studious, pains-taking, successful bee-keepers, whose influence will allure multitudes to this fascinating pursuit, and these in their turn will draw others into the apicultural ranks.

So important and growing an interest must have due representation in the press,

and will find it in such apiarian periodicals as make it their aim to advance apiculture, irrespective of all merely selfish interests. At the head of all these stands the AMERICAN BEE JOURNAL, and therefore all the auguries of success for intelligent bee-keeping are omens of prosperity for it. In this confidence it was removed to this city a year ago, and during a season of depression among bee-keepers, pushed with all the energy circumstances admitted. In this confidence, it is now laid hold of by the AMERICAN PUBLISHING CO., under whose auspices it enters on the year 1874 with every prospect of a growing circulation, and widening usefulness.

Knowing, as we do so well, the firm faith our most intelligent bee-keepers have in their business, and the high esteem in which they hold the AMERICAN BEE JOURNAL as the best exponent and organ of their special interests, we count most confidently on their continued co-operation. Their success is ours, and our success is theirs. In this community of interests and fellowship of labour for the general good, they have our best wishes, and we are certain that we have theirs. As we work on diligently and hopefully, do we not hear merry voices ringing out the cheering refrain:

"There's a good time coming, boys,
Wait a little longer."

Hints to Correspondents.

Perhaps there is no way in which the science of bee-keeping can be better advanced than by comparing the experience of *practical men*. One *fact* is worth a dozen theories. Therefore we are grateful to our friends for giving their thoughts and the result of their efforts to the JOURNAL. But it must be borne in mind that our space is not equal to our good wishes in this matter, therefore it will be necessary for our friends to *condense* their thoughts as much as possible. Try and give us the "concentrated extract" of your experience in Bee Culture. We will publish

nearly all if possible, but if we have to cut and prune sometimes a little closely, please bear in mind that our space can only be filled, therefore we are sometimes obliged to publish only extracts, instead of whole letters. Another thing we would suggest is, that our correspondents avoid as far as possible, *all personalities*. These are hardly calculated to produce harmonious feelings in our families, and certainly not essential to the science of Apiculture.

Annual Meeting of the North American Bee-Keepers' Society.

Elsewhere in this number will be found a report of the above meeting, held at Louisville, Ky. The editor of this journal fully intended to have been present, alike in the interest of the JOURNAL and in the discharge of his duty as President of the Society. His intention was frustrated by the death of his father-in-law. The sad event took place too near the time of the meeting to arrange for the attendance of any other representative of the JOURNAL. It is hoped, however, that the report of the proceedings will be found accurate and satisfactory, and that this explanation of his non-attendance will be accepted by all concerned.

To Those Interested in Bee Culture.

At the sixth annual convention of the Michigan Bee-Keepers' Association, it was decided to hold a special meeting at Kalamazoo, to commence Wednesday, May 6th, 1874. It is especially desired that all members be present, and, in behalf of the Association, we urge every bee-keeper in Michigan to attend. A cordial invitation is also extended to all persons interested in the science of bee-culture, whether residing in this or other States. Surely much good may be derived from a comparison of experiences next Spring, and from the able papers that will then be presented. Timely notice will be given of all further arrangements. Address communications or inquiries concerning the subject to

FRANK BENTON,
Sec'y Mich. Bee-Keepers' Association.
Shelby, Oceana Co., Mich.

"Instead of complaining that the rose has thorns, I congratulate myself that the thorn is surmounted by roses."

Sundry Items.

INTRODUCING QUEENS.—Having more experience in introducing queens as recommended by me in October JOURNAL, I would advise not to release *late* in the season, especially in cool weather.

PACKING HIVES FOR WINTER.—I have packed some hives to winter on summer stands, as follows: Of stuff inch wide by quarter inch thick, I cut off lengths so as to make frame, four pieces for a frame, the outside dimensions of which are same as the side walls and top of brood chamber. These skeletons were covered with coffee sacking, and when ready to pack, I removed the wooden sidewalls and top of brood chamber altogether, replacing with those just described, and then filled in all around and on top with straw. I am confident this will avoid all moisture, and be much warmer—the two most essential points to be gained, for successful out door wintering.

Now if any who chance to read these lines, have bees in single walls to winter on summer stands, having done *nothing* by way of protection, I would say, Try a few hives as follows: Make a frame and cover it with sacking as above described, that will fit snugly inside of cap, fill cap with straw and press the frame down upon it, having put the side to which the sacking is fastened to frame next to the straw. Remove the honey-board, and replace the cap on hive. Now set the hive one side, and place on the stand a dry goods box, several inches larger all round than the hive, with the open side facing the same way as the front of the hive. Fill in the back side of the box with straw, and set the hive in the box, and fill in both sides with straw. If your bees dont come out in Spring in better condition, *on less honey consumed*, tell us all about it in the JOURNAL.

This brings us to consider Novice's allusion to us in November JOURNAL, on "Out-door wintering," in regard to which he has heretofore expressed himself, as follows: "We should give them no protection whatever, unless it be from the wind; but should endeavour to have them receive all the *sun* possible." One of Novice's correspondents writes, "that in this climate, out door, without protection is very unsafe," to which Novice adds, "We have been obliged to come to the same conclusion in regard to out-door wintering." What conclusion,

Novice? Why, that out-door wintering, *without protection*, is very unsafe. That is plain enough without "pursuing our reading any farther," as we do not think the statement about the sunshine alters the meaning of the above at all.

In giving our views we have always confined ourself to the subject in hand, viz., "Wintering on Summer Stand," and not as Novice generally does, shift it to "Wintering in Special Depositories."

In the report of the Kansas State Beekeepers' Association, we find the following assertions by Mr. Meador: In speaking of the queen he says, "After impregnation *all* the eggs produce females, and that the male bees were *generally* produced by eggs from the *worker* bee, fed for the purpose."

That we have fertile "workers," I suppose every queen breeder has found out to his detriment; but the above assertions in regard to the same are at variance with all our reading or experience. I for one, and methinks a whole brigade of JOURNAL readers join in, would like his "proofs for the faith that is in him."

I removed a queen from a hive in May, from which drones were flying, and as I wanted drones from the queen that succeeded the one removed, I placed drone comb in the middle of the hive, which was filled with eggs, and cells sealed long before any worker progeny of the new queen hatched. So if that drone comb was filled with eggs by a fertile worker, it must have been one bred from the *old* queen, consequently there could be no *variation* in drones hatching from that brood, and those in the hive when the old queen was removed. There was, however a *great* difference in the markings, showing a different strain altogether.

J. E. MOORE.

Rochester, Pa., Nov. 28, 1873.

"Moon's Bee World," is the name of a new periodical published at Rome, Ga.—We wish the new magazine all success and may the South soon become "a land flowing with milk and honey."

Fruit may be preserved with honey by putting the fruit first in the can, then pouring honey over it, and seal air tight; when the honey is poured from the fruit it will have the flavor and appearance of jelly, making a delicious dessert.

For the American Bee Journal.

A New Repository for Bees.

MR. EDITOR: Of the great number who suffered from the loss of bees last Winter I am one. I lost all I had, forty-two stocks, leaving a large amount of honey. And now after sifting the matter down to a fine thing, I have concluded the cause was in a measure carelessness, in not protecting the bees and giving them sufficient ventilation. The Winter set in about Nov. 12th, 1872, and continued until about the last of March, 1873, too cold all that time for bees to be out, except one or two days in February, then but few made their appearance. The consequence was that the frost accumulated in the hive, and then a moderate day would come to melt the frost and make it run down over the combs and thin the honey, which caused dysentery. Nearly all in this section lost all the bees they had; the disease paid no respect to the pattern of hive but entered all alike.

Last Spring I procured two very weak stocks of black bees from a neighbor, the best that I could do here. I also procured a medium stock (five frames) of Italians from W. J. Davis, of Youngsville, Pa; this stock contained a beautiful queen, and as prolific a queen as I ever saw. In order to make a cross I procured a very beautiful queen from Mr. D. A. Pike, of Smithsburg, Md., and introduced her into one of the black stocks, then after a sufficient length of time formed nucleus, raised queens, which mated with Mr. Davis' stock of drones. No drone brood was allowed to hatch in the black stocks for six weeks after the Italian queens were introduced. I have increased to eleven good stocks with abundant stores for a long Winter, and the nicest, most robust and the best workers that I ever saw. The loss of last Winter is a dear lesson to most beekeepers—it has proved so to me at least.

I have built a repository, which I think is complete, as follows: I selected a dry spot which slopes a little to the north, then graded it to the south twelve feet, and ten feet the other way; then set two posts at north end, wide enough apart for a door, then four feet south two other posts, same distance apart, and eight feet farther south two posts, same distance, then pinned perlines on top of the posts, same as a barn, put stays across the top to keep the posts from leaning in toward each other, posts four feet high from

the floor; then set up two-inch plank of sufficient length to meet at the top, same as rafters, with one end on the ground, thus making a roof eight feet wide; then planking up the ends, all but the door four feet high and thirty inches wide, then planked up the remaining four feet perpendicular and out to the first two posts, then horizontal over the top, and then covered the whole over with dirt from twelve to fifteen inches deep, leaving another door at the north end, forming a hall, can open the first door, pass in and shut it, and open the next, this lets no light in nor sudden change of air. Have ventilated at the bottom with two inch pipe and at the top with six inch stove-pipe; put a roof of boards above the dirt, and kept a stove and fire in it about four weeks before putting in the bees. Have only the out-side door shut, it is warm enough up to this date. The bees are perfectly quiet with all the holes open in the honey-board. They were put in on the 13th of November. The weather has not been warm enough to fly since had they been out.

M. WILSON.

Meredith, Pa., Nov. 28, 1873.

Hints to Ladies.

Much has been said and done in relation to "Woman's Rights," but amid all the speeches, conventions and resolutions of the last few years, the most successful women have been those who have quietly gone to work, winning their own way to prosperity.

All the conventions this side of the garden of Eden will not help woman into a position of comparative independence unless she tries to help herself. Rosa Bonheur did not ask Congress to make her an artist—nature gave her the ability and she wrought out her own problems with patience and earnestness.

Harriet Hosmer sought no aid from conventions and by-laws when she began her life work, and Florence Nightingale did not care to vote before she went into the Crimea. But all women are not artists or sculptors. Their gifts vary as much as those of the other sex, and indeed like many of them, some of us seem to have received none at all, that is no bright particular talent, which, if cultivated, will bring wealth and fame.

To hundreds and thousands of brave hearted women the serious question comes home "What can we do for a living." The endless round of domestic labor brings little or no reward, while the ranks of teachers and seamstresses are filled to overflowing. There are clerkships to be sure, and many of them are ably filled by ladies; but side by side with them, are stalwart men who *weary* themselves with handling ribbons and laces, while the soil waits for tilling and the harvest for reapers. In many departments of life man gets sadly "out of his sphere" by intruding upon women's legitimate domain. But we cannot straighten the world's machinery, though it sometimes gets badly out of gear, neither can we force the drones into their proper places. It therefore behooves us to find fields of labor where there is room enough and to spare, and perhaps the most tempting of these is the science of *Apiculture*.

Woman is particularly fitted for the handling of bees. Her perceptions are quick, her touch is delicate and her instincts are seldom at fault. Many of us can find time amid domestic cares to cultivate a few flowers and we do not feel that the time thus spent is wasted, even though it brings no financial reward. But the care of a few colonies of bees would require no more time than the same number of flower beds and the pursuit is even more fascinating; there is more pleasure in seeing the little workers build without a compass their geometrical cells than in watching the unfoldings of bud and blossom. The work is lighter and cleaner than Horticulture, besides yielding substantial returns. And however happily a woman may be situated in life there is a pleasure and independence derived from the use of money which she has *earned* that can be found in no other way. Then if she wishes to make her husband a holiday present, she can do so without feeling that it came from his own pocket. Many a worn out teacher and tired house-wife may find among their bees rest, health and a new interest in life. To women in feeble health bee-keeping offers many advantages. Let them be hers and let her take care of them, and she will feel an interest in the little creatures that can be awakened in no other way. Every pleasant day will find her more than once beside

the hives, and the fresh air and glad sunshine with the aid of light employment will give her a strong hold upon life. It opens a new world in natural history which proves to be one of absorbing interest. It has been demonstrated that some of the most successful Apiarians in the country are ladies.

Says Mrs. E. S. Tupper: "In the summer of 1863 I had but two pure Italian stocks to commence with. One of these stored *one hundred and ten* pounds of honey besides giving three swarms. The other gave two swarms and stored ninety-six pounds of honey. All of the young swarms filled their hives and some of them stored honey in boxes. In the summer of 1864 I averaged from nine Italian colonies *one hundred and eighteen pounds each*."

A gentleman writes from Odell, Ill., that "Wife has managed the bees at home this summer. She had twelve swarms to start with, some of them very weak. Sold one hundred and thirty dollars worth of surplus bees and two hundred and fifty pounds of honey, which was doing pretty well, considering the *poor season* and the first attempt." Yet we will venture the assertion that this lady did not neglect her other duties or enjoy life any the less on account of the time spent in caring for her bees.

Ladies here is health, happiness and financial success for you. Do not say that you do not understand the business, that you cannot learn, that you are afraid of failures, &c. One year's subscription to the AMERICAN BEE JOURNAL will give you a whole volume of advice from the best practical Apiarians in the country. It requires but little capital to begin with, hence the risk is very small and success is almost certain. Try the experiment next summer, and let us hear of your success in the fall through the columns of the JOURNAL.

MRS. H. V. REED.

Central Iowa Bee-Keepers' Association.

The next annual meeting of the Central Iowa Bee-Keepers' Association will be held at Cedar Rapids, Iowa, Jan. 21, 1874, and hold two or three days. It is expected that the usual reductions will be made in railroad and hotel fare.

A. B. MASON, Sec'y,
Waterloo, Iowa.

A large natural swarm of bees carries with it four or five pounds of honey when leaving.

Translated for the American Bee Journal.

Early and Full-developed Queens.

Whoever has, even superficially, examined the internal arrangements of the hive, can see readily how differently the development of the stock takes place under varying circumstances. You may have seen a swarm fill in three days an ordinary sized hive, while it would take, with other swarms, three years to accomplish the same.

Hanneman tells us that in Brazil young swarms after one month send out new swarms, while under other circumstances such a young swarm would not think of swarming under a year. As with the development of the whole hive, so it is in resemblance, if not in proportion, with the development of each individual under various circumstances and at different periods of the year. How marked the difference, we may see in the varying lengths of the life of the worker bee at different periods of the year. Of those bred in April or May, not one will be living six weeks afterward; or at least very few; while those born shortly before lived to hoary old age. Those hatched in August or September, appear six months afterwards, in Spring, as young and active as though just one day old. Such is the effect of the constant and incessant labor during the Summer, and the protracted rest in Winter.

Should we observe the queen, the most perfectly developed of all the bees, upon whom depends the development, populousness and profitableness of the hive, we would see that her activity differs greatly at different portions of the year. Normally her activity with us ceases entirely during the last three months of the year. Only in swarms which breed a queen late in the season, or which are for a long time queenless do we find any brood in the fall and winter months, which is owing to the fact that the bees have a desire for it, owing to their long queenlessness; having on hand in their cells a store of brood-food.

This untimely breeding, especially if it extends into the Winter, works to their injury, and is as undesirable as the, in other hives, too early and extensive breeding in Spring for fear of the cold. Also towards the close of the honey harvest, an earlier shrinking of the quantities of brood would be advantageous.

On the other hand, in the early months immediately preceding the honey harvest, in April, May, and June, the bee keeper desires to stimulate breeding to the utmost, and prevent any possible interruption. The more brood the hive now possesses, the more workers it will have to gather the harvest. At the first start young swarms are very industrious, but this gradually diminishes, owing to inevitable loss of workers, without any supply being furnished until three weeks later when the young brood begins to hatch out, and renew the life of the swarm. From a strong colony we can gradually remove great masses of bees, without any injury to its strength, either as regards its flight or building capacity; but should the queen depart, either by natural or artificial swarming, or by any other means, all building will at once cease, and how sadly the swarm falls gradually behind hand in its working capacities, all bee keepers well know.

The brood supply will disappear in a few weeks, in which time several strong swarms might have been reared, and perhaps at the height of the honey harvest, the hive will be almost empty of bees and will have no surplus for its winter support, if it even lives that long. Here becomes apparent the advantages of the movable comb hives and a rational system of bee-keeping. Here these dangers of queenlessness are so diminished as to be rendered almost harmless. The swarm can be readily supplied with brood from time to time, and more readily supplied with queen. While in other hives, eleven to thirteen days will elapse before a young queen will be hatched out, I can now remove a laying queen, and usually in two days after have a young queen hatched, which in eight days will begin to lay. From April, as soon as drone-brood is to be seen, I seek constantly to have a supply of queen-cells on hand.

I utilize the queen as soon as hatched; generally, however, use the queen-cells just before the queens hatch. To remove a fertile queen, and introduce a young one, or insert a queen-cell, will often miscarry. One must adopt many maneuvers to reach his object. To an unequipped stock, in the meantime, I give a comb of brood from another stock or nucleus, upon which are found queen-cells some days old, and give

to these latter an already hatched queen, or a queen-cell. It is not to be feared that these latter will destroy the cells, especially if they are young and were given to the hive with the bees on them.

The swarm will at once protect the cells and commence to complete them, and will thereby be favorably inclined on the following day to accept an older queen-cell or perhaps a recently hatched queen, and the comb containing the cells may be given to another recently unqueened swarm.

By mixing the bees of two swarms, either by interchanging combs, or by shaking the bees from them, a swarm may be prepared for accepting a young queen. Also a stupefying of the bees, with the smoke of a puff-ball, perfumery, etc., serves well.

When one has not a surplus of young queens, it is well to confine them in a cage until the bees become acquainted with her.

This introduction, however, is only complete when the young queen becomes fertile, which is sometimes very slow. The impregnating of young queens depends much on the weather, since it requires bright, pleasant weather with a temperature of upwards 77° F. in the shade. Here the bee-keeper can aid somewhat, that the young queen may become earlier capable of being impregnated, earlier capable of making her wedding flight, and, consequently, earlier capable of laying. That young queens will make their wedding flight at a certain specific time, as Herr Collen claims to have discovered, is opposed by theory and practice. Fourteen days in March will not advance a queen as far as seven days in May.

The queen of an after swarm will be laying before the queen of another stock, of like age, will hardly be thinking of making her wedding trip, perhaps not yet ruler of the hive. There is very good ground for this. To attain the capability of being impregnated the internal organs must be more developed, which require the building up of the muscles and nitrogenous nourishment. Such food the bees alone prepare when in full, active life, when building and brooding is going on. It is true that in after swarms there is no breeding going on, but there is great activity in building, and for this purpose a higher temperature is maintained; this stimulates in the young queen an earlier development, earlier flight and earlier laying. In the mother stock, however, there is neither breeding nor building going on, no

full active life rules the hive, hence the young queen remaining behind, in general, develops herself much more slowly. Many keepers of movable comb hives, or basket hives, cut away some portion of the comb near the entrance, in order by the filling of the vacancy, to test whether the hive was queenless or not. And by so doing they obtain, without thinking of it, an earlier impregnation of their queen, the increased activity in building bringing this about. In movable comb hives the activity of the bees is aroused and the development of the queen is hastened by placing in the hive a comb of young unsealed brood, or, if he does not wish to destroy fine empty combs, let him separate the combs and insert between them, near the fly hole, empty frames with simply foundations. Again, by feeding in the evening, and from time to time sprinkling with thinned honey, will the early and full development of the queen be not a little hastened. Yesterday, August 8, a hot, oppressive day, I entered my Apiary about three P. M. Hardly any bees were flying, since this one week of oppressive heat had parched all vegetation. Only the drones, where any were yet present, were hotly pursued. Their number becoming daily less, I sprinkled all my nuclei, containing young queens, with diluted honey. It was hardly a minute before I saw a young queen with her cluster of bees leave the hive; on opening the hive a quarter of an hour later, I found the plain signs of her copulation. Without the aid given by this sprinkling of thinned honey the queen would not have come out; and had the weather changed, days, yes weeks, might have elapsed before another favorable opportunity would have presented itself.

Moreover, the periods at which the impregnated queens begin to lay differ widely. Often in two days after copulation she has full laying powers, but with as thin a body as an unimpregnated queen. And then nothing is so stimulating as comb of young brood. The bees having then to prepare food for the brood, the queen will also be abundantly furnished with it, and thus begins to lay so much earlier. In this is also the advantage that in looking for the queen you will find her on the brood comb, and then one can readily see whether she is wanting in any particular.

DZIERZON.

Carlsmark, Aug. 9, 1873.

Voices from Among the Hives.

A. C. BALCH, Kalamazoo, Mich., writes:—I have put all my bees into the cellar for the winter, and have no fears of losing them, as I have no faith in dysentery or bad honey. I believe with Cromwell—'Put your faith in Providence and keep your powder dry.'—Have good hives, the tighter the better, and give very little ventilation. Put them in a good, warm, dark and dry cellar, with enough to eat, and they will come out all right; at least mine always have. I never give any top ventilation, and but small bottom, and thus have no circulation of air through the hive.

JOSEPH B. RAPP, Owensville, O., writes:—Some of us beginners would like to have communications from A. Grimm, M. Quinby, Capt. Hetherington and other Apiarians, describing in detail their methods of managing apiaries. From what little knowledge I have been able to pick up about bees, I think that Mr. Faulkners, of Vevay, Ind., has the best way of managing bees for profit. Colonies in this country are almost all weak in numbers, and will necessarily have to be protected to winter surely.

W. J. MCKEE, Cedar Falls, Iowa, writes:—I consider the JOURNAL indispensable to every bee-keeper.

A. GREY, Reiley, Ohio, writes:—What few bees were alive last Spring have done fine this season, both in honey and in increase of stock. I do not fear the dysentery this Winter, as the honey is of the best quality and the stocks are in good condition for Winter. Success to the JOURNAL and all of its readers.

W. M. KELLOGG, Oneida, Ills., writes of Bees and "Novice," as follows:—"Friend Argus thinks the lips the worst place on which to have a loving bee salute a person. Just let him get a good deep one on the inside of the nostril, as I have had twice, and he will own up that he had rather try the kiss on the lips, or take one on the tip end of the nose ker slap, with the bee coming like a ball from a rifle. As for me, I had rather be excused from any of them. Friend Chapman, I agree with you in regard to the abuse heaped upon "Novice," and I too enter my protest against having any such articles appear in the JOURNAL. And as to his opposition to patent hives, I think if a little more of it were done, bee-keepers in general would be the gainers. I bought the Right? of an Eastern hive, and it would have been a hundred dollars in my pocket had I never seen said hive; and now we all have the *right* to make as many of them as we (*don't*) want.

E. LISTON, Virgil City, Missouri, reports as follows: My bees are all in good order for wintering, and are on their summer stands. Winter is open and the bees

fly every few days. In this section of the country bees made us no surplus the past season on account of dry weather, and I fear many black bees in old box hives will starve to death before bloom comes next Summer. Successful Apiarians in this section are very scarce, because they have not the energy, industry and care that the calling requires.

J. F. LOVE, Cornersville, Tenn., writes:—Our bees are in the very best condition possible for wintering, and this has been a good season for honey in this part of the State. I do not expect to lose a single stock; our bees can fly every ten or fifteen days through the Winter generally; we keep them on the summer stand. I saved every full stock and all nuclei last Winter on the summer stands and with no sign of disease of any kind.

DR. E. G. DECKER, Fort Fairfield, Maine, says:—Being an Apiarian, I do not know how to get along without the JOURNAL. Bees did well here the past season; my thirty hives paid me ten dollars apiece, besides increasing to seventy-five full stocks. My surplus was all boxes, price here, twenty cents, gross weight. I take no particular pains with them as I have a large country practice to attend to. Winter in the cellar, keep them in from November 25th to April 10th or 20th. I hope to see the JOURNAL semi-monthly before long.

J. HARPER, Mason, Mich., writes that bees have done well in his locality for the last three seasons and that the last year has been the best of all. He also mentions a fatal disease which has attacked his bees. Having found a goodly number dead, he inquired into the cause and found a maggot or crab, about the size of a horse-fly maggot, only they are wider between the eyes and very black. He states that he has put some of these in glass vials, and thinks they will hatch in the Spring; they are now in cocoon state. Some explanation is asked for from any one who has had any practical experience in that direction.

P. J. TALBOT, Viola, Iowa, says:—I deprecate all complicated hives, not because they are patented, but because they are very injurious to beginners—experienced apiarians will not use them. . . . The frames should be high enough from the bottom of the hive to allow it to be easily cleaned out with a small scraper and slip board at the bottom and rear of the hive. That should be attended to often if the weather will permit.

MR. CAMPBELL of Tennessee, writes:—Three years ago I began with two stocks in box hives, one of which I transferred to the Langstroth hive, and the other to the Buckeye. Those in the Langstroth hive did well and increased rapidly, but the moths took charge of the other, and the bees refused to stay in it. I put them in three times, and the last time they

came out they took to the woods with a "whiz." I had no surplus honey this season. It has been a very poor year for honey in this locality.

S. J. FREEBORN, Ithaca, Wis., says: There is very little done in this section in scientific bee-keeping, but thanks to the JOURNAL, we hope to do a little in that line another Summer. What few bees there were left did very well in gathering honey last Summer. It was mostly collected from buckwheat, and was thicker than usual.

WM. MUTH RASMUSSEN, of El Monte, Los Angeles Co., Cal., writes: Last August a small number of bee-keepers of this county formed the Bee-keepers' Association of Los Angeles County. We do not yet count many members, but hope before long to have most of the bee-keepers of the county join us, and new members are coming in at each meeting. A committee appointed for the purpose, reported at the last meeting 3117 hives of bees in the county, and probably more which they had not been able to find. The yield of honey from these hives for the last season was estimated at 160,000 pounds.

THOS. H. HUNTER, Zanesville, Ohio, says:—This has been a poor season for gathering honey in this locality. From seven colonies I had only about a hundred pounds of box honey.

JOHN MIDDLEWORTH, Byron, Mich., writes:—The last two Winters will long be remembered by the bee-keepers in this vicinity. I lost in 1871, forty-three stocks out of forty-six, and in 1872, lost thirty-three out of thirty-six. There was only one stock besides mine wintered, making only four in the township. I now have nine colonies, and hope for better success.

WM. ASHCOME, Ligonier, Pa., writes:—Bees have done better here the last season, than they have for the past twenty years. I never had them in a better condition than now. I keep them on their summer stands, using the one story Langstroth hive. In the Fall I pack between the outside and the glass with dry leaves, and since doing this have had no moldy comb.

J. A. FOULSTON, of Farley, Iowa, says:—I had ten swarms last Spring in very poor condition. I Italianized all but two, and increased them to fifteen colonies, and took three hundred pounds of honey with the extractor.

JAMES SCOTT, Epworth, Iowa, reports as follows:—I went into winter quarters in 1872 with thirty-six stands: lost one in the cellar by starvation with plenty of honey in the hive. It was a two story hive, and I had neglected to remove the upper story. I lost seven in all, in the Spring sold two, leaving twenty-six, most of them in poor condition; but I obtained 1900 pounds of extracted honey and increased my stock to thirty-six.

MRS. V. C. CONDIT, of Howard Springs, Tenn. states:—Bees did poorly here until the 1st. of July, on account of wet weather. After that they did very well; but we had no increase.

W. J. DAVIS, Youngsville, Pa., says:—I prize the AMERICAN BEE JOURNAL very highly, and consider it worth more than all the other Bee magazines combined.

JAMES M. LAY, of Madison, Wis., writes:—In relation to the bee plant, *Monarda Punctata*, I think it grows best when sown in the Fall or in the Spring before the snow goes off. I sowed some last May that did not come up, but expect so see it next Spring. Lost all our bees last Winter: bought one swarm last Spring, and it increased to fourteen, besides giving 190 pounds of honey.

JOHN A. BUCHANAN, of Wintersville, Ohio, writes as follows:—Our experience in this locality is, that our gains are doubled by the use of the Extractor and more than doubled by reading and practicing upon the many valuable suggestions found in the columns of THE AMERICAN BEE JOURNAL.

H. ROOT, Otisco Valley, N. Y., states:—Out of ninety-nine swarms last year, only thirty-three survived, and most of them in a very weak condition. I increased them to only forty-one, my object being honey, and they gave me 1800 pounds of nice honey, which I sold in New York for thirty-six cents a pound. This was done by the black bee in the Langstroth hive. If any have done better, let us hear from them through the JOURNAL. You may consider me a subscriber for life.

J. T. WATKINS, of Sparta, Ind., asks several questions, which he will find fully answered in this number and the next.

ANNA SAUNDERS, of Woodville, Miss., writes that there are very few bees in that locality, but that the few are prosperous, there being no bee disease in that vicinity. She says farther:—I enclose you a few seeds of the Sage tree, which is as large as the medium sized Larch, and when in bloom is alive with bees. Will take pleasure in sending the seed to any one. In reply to her questions about the sale of queens, apiarian supplies, etc., we would refer her to our advertising columns. We shall take pleasure in testing the seeds sent.

A. B. MASON, of Waterloo, Iowa, called on us a few days ago. Mr. M. reports that Italian bees did not do well in his section of Iowa, on account of the severe drought in the early part of the season.

Mr. Lee, of Pecatonica, Ill., brought to our market 1400 pounds of comb honey in December. It was very choice indeed. We did not learn to whom it was sold. His bees were very successful during last season. He commenced the season with forty colonies, and now has over one hundred, and has sold over 3000 pounds, comb and extracted.

MR. JAMES J. H. GREGORY of Marblehead, Mass., aims to supply one great want, which many a good farmer, when too late, has felt to his keen sorrow: Garden seeds that know how to come up, and when the crop is gathered prove to be just the kind the label said they were. Mr. Gregory is one of the few seedsmen in the United States who grows a large portion of the seed he sells, and he gets out a live Catalogue, as would be expected of the original introducer of the Hubbard Squash. His advertisement will be found in this number. His Illustrated Catalogue will be sent FREE to applicants.

Michigan Bee-Keepers' Convention.

The following report of the proceedings of that body is just received from the Secretary. He makes an apology for the delay upon the ground that he has been getting married, and, therefore, had no time to attend to matters of minor importance. We accept his excuse as being perfectly valid:

GRAND RAPIDS, MICH., Sep. 17, 1873.

7:30 P. M.—The sixth annual convention of the Michigan Bee-Keepers Association met, pursuant to notice, in the Court-House, at Grand Rapids, Vice-President A. C. Balch, of Kalamazoo, in the chair.

The minutes of the previous meeting were read and approved.

A number of those announced for papers not being present, the Secretary proposed that extemporaneous remarks upon some subject of present interest to bee-keepers be made.

The subject of Hives was decided upon. The point contended was for the most part the relative merits of one and two story hives.

Mr. H. A. Burch, of South Haven, claimed that in his experience the hive with a single story had proved the most successful.

Mr. James Heddon, of Dowagiac, defended hives of two or more stories. He piled his hives one upon another to the height of two or three stories, and said by changing the frames from one part to another part of the sections, he had induced the queen to go into all parts of the hive and deposit her eggs, thus filling every part with brood.

Mr. Tomlinson, of Allegan, used a hive of one story, and very shallow frames, only six inches in width. He had, during the Summer just passed, increased his swarms from five to twenty in number, and had taken four hundred pounds of box-honey.

The meeting was rather informal, and considerable digression from the main subject was indulged in.

Adjourned until to-morrow 9 A. M.

THURSDAY MORNING SESSION.

The President still being absent, the chair was filled by Vice-President Balch. The order of business was announced to be the consideration of Artificial Swarming and the Honey Extractor.

The subject of artificial swarming was discussed and the various methods stated by Messrs. A. C. Balch, C. I. Balch, Heddon, Everard and Porter.

The Secretary then read an interesting paper by A. I. Root, of Medina, Ohio, upon "The Honey Extractor, its Uses and Benefits."

After the experience of some of the members present with the Honey Extractor was given, the meeting adjourned till evening.

THURSDAY EVENING SESSION.

The meeting was called to order by the President, T. F. Bingham, of Allegan, who had arrived during the day.

To the great satisfaction of all present, Prof. A. J. Cook, of Lansing, formerly Secretary of the Association, put in an appearance at the opening of the meeting.

The topic for the evening, as announced at the previous meeting, was the all important subject of Wintering Bees.

Upon this subject Prof. Cook had prepared a somewhat lengthy, able and scientific paper, which he read to the convention. The paper drew out a most hearty vote of thanks to Prof. Cook. Some remarks were made, and the experience of members stated on the subject under consideration.

Mr. A. C. Balch stated that according to his experience very little ventilation was needed in Winter, and gave his reason for such a position. He stated that with much ventilation there was a constant escape of heat, and that the temperature inside the hive would be more variable.

After a very interesting evening, the meeting adjourned until to-morrow morning at eight o'clock.

FRIDAY MORNING SESSION.

Meeting called to order by President Bingham. Minutes of last meeting read and approved. The convention then proceeded to transact miscellaneous business.

Motion made and carried that the Society hold a special meeting at Kalamazoo, the first Wednesday in May of 1874.

Motion made and carried to empower the special meeting at Kalamazoo to appoint the time and place of holding the next annual meeting.

The election of officers was then proceeded with, the following being the result: President, A. C. Balch, Kalamazoo; Vice-President, H. A. Burch, South Haven; Secretary, Frank Benton, Shelby, Oceana Co; Treasurer, T. F. Bingham, Allegan.

Motion made and carried that the retiring President and Secretary receive a vote of thanks from the Society for the faithful manner in which they have performed their respective duties.

A resolution was then introduced relative to amending the constitution so that instead of the former number of officers, there should be in addition a Vice-President for each of the several counties of the State, so far as represented in the Association. Adopted.

The convention proceeded to appoint Vice-Presidents for all the counties represented in the Society.

The meeting then adjourned until the first Wednesday in May, 1874.

J. W. PORTER,

Sec'y Mich. Bee-Keepers' Association.
T. F. BINGHAM, President.

To Bee-Keepers.

The North Eastern Bee-Keepers' Association will hold its fourth annual meeting at the Butterfield House, Utica, N. Y., on the 4th. and 5th. of February, 1874.

Questions of importance will be discussed. Bee-keepers are most urgently requested to attend and take part in the proceedings. In union there is strength. Please respond.

J. H. NELLIS, Secy.

M. QUINBY, Pres.

The *National Bee Journal*, Mrs. E. S. Tupper, Publisher, has recently been improved in its appearance by the addition of a neat cover. The *Journal* is well executed, and promises to be a success in the hands of the present Publisher.